UNITED STATES PATENT AND TRADEMARK OFFICE

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STRAUB & POKOTYLO
620 TINTON AVENUE
BLDG. B, 2ND FLOOR
TINTON FALLS, NJ 07724

EXAMINER
NGUYEN, MERILYN P

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

		Application No.	Applicant(s)
Office Action Summary		10/608,468	PUGH ET AL.
		Examiner	Art Unit
		Merilyn P. Nguyen	2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *46-67* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *46-47* is/are allowed.

6)☒ Claim(s) *48-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)	5) ☐ Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) ☒ Other: *Detailed action*.

DETAILED ACTION

1.   In response to the communication dated 03/23/2007, claims 46-67 are pending in this

application.

2.   This application is a continuation of 09/768947 now patent numbered 6,658,423.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 48-67 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter.

As set forth in MPEP 21 06(II)A:

Identify and understand Any Practical Application Asserted for the Invention The

claimed invention as a whole must accomplish a practical application. That is, it must produce a

"useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The

purpose of this requirement is to limit patent protection to inventions that possess a certain level

of "real world" value, as opposed to subject matter that represents nothing more than an idea or

concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383

U.S. 519, 528-36, 148 USPQ 689, 693-96),' In re Ziegler, 992, F.2d 1 197, 1200-03, 26 USPQ2d

1600, 1603-06 (Fed. Cir. 199334. Accordingly, a complete disclosure should contain some

indication of the practical application for the claimed invention, i.e., why the applicant believes

the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file <u>stored on a disk</u> may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some <u>"real world"</u> value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a "useful, concrete and tangible result". The Interim Guidelines for Examination of Patent Applications for Patent Subject Maher Eligibility states in section IV C. 2 b. (2) (on page 21 in the PDF format):

> The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of that §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application").

Claimed invention (Claims 48 and 67) recites a machine-readable medium having stored thereon a plurality of records which do not satisfy the useful result aspect of the practical application requirement. Merely claiming nonfunctional descriptive material stored in a machine-readable medium does not make the invention eligible for patenting. The claims recite functional descriptive hash function, which is used to hash each of the elements to determine which one of the plurality of list that each of the elements will be contained in. However, the determination is performed outside of the machine-readable medium and is nothing to do with the functional aspect of the medium. Thus, merely reciting non-functional descriptive material (field and lists) by putting them into memory does not lead to a practical application.

Claimed invention (Claim 49) recites a method for determining whether two documents are near-duplicates comprising for each of the two documents, generating at least two fingerprints and determining whether or not the two documents are near-duplicates document which do not provide useful and tangible results as to whether their execution accomplishes a practical application. This claim contains software per se which is not tangible. Moreover, the claim lack of practical application as to how the system would operate if it is determined that the fingerprint of the first of the two documents does not match with the fingerprint of the second of the two documents. The newly added limitation does not resolve the lacking of practical application because the determination of whether or not the two documents are near-duplicates is intended to use for different operations but not actually involving any function at all.

Claimed invention (Claims 50-67) recites a machine-readable medium having stored

thereon a plurality of records which do not satisfy the useful result aspect of the practical

application requirement. Merely claiming nonfunctional descriptive material stored in a

machine-readable medium does not make the invention eligible for patenting. Merely reciting

non-functional descriptive material such as field and lists by putting them into memory does not

lead to a practical application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
sale in this country, more than one year prior to the date of application for patent in the United States.
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
patent by another filed in the United States before the invention by the applicant for patent, except that an
international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
subsection of an application filed in the United States only if the international application designated the United
States and was published under Article 21(2) of such treaty in the English language.

4.   Claim 49 is rejected under 35 U.S.C. 102(e) as being anticipated by Broder (US

6,119,124).

Regarding claim 49, Broder discloses a method for determining whether two documents

are near-duplicates (See col. 4, line 6 et seq.), the method comprising:

a) for each of the two documents, generating at least two fingerprints (See col. 4, lines

19-24, wherein unique identifications of a document can be computed as digital fingerprints

corresponding to at least two fingerprints for each document); and

b) determining whether or not the two documents are near-duplicate documents by

i) determining whether or not any one of the at least two fingerprints of a first of

the two documents matches any one of the at least two fingerprints of a second of

the two documents (See col. 10, lines 27-29), and

ii) if it is determined that anyone fingerprint of the at least two fingerprints of the

first of the two documents does match any one fingerprint of the at least two

fingerprints of the second of the two documents, then concluding that the two

documents are near-duplicates (See 10, lines 27-29); and

c) using the determination of whether or not the two documents are near-duplicates in at

least one of (A) an act of serving search results corresponding to documents, (B) an act of

crawling documents, (C) an act of indexing documents (See col. 2, lines 27-30), and (D) an act

of fixing a broken link to at least one of the two documents.

5.   Claims 50-54, 58-60, 61-63, and 64-66 are rejected under 35 U.S.C. 102(b) as being

anticipated by Johnson (U.S. Patent No. 5,850,490).

Regarding claims 50-54, Johnson discloses a machine-readable medium having stored

thereon a plurality of records (See Fig. 16), each of the records comprising:

a) a first field for storing a document identifier (Document Identifier field 0001,

Fig. 16); and

b) a plurality of lists (Segment class 1, segment class 2, segment class 3..., Fig.

16), each of the plurality of lists containing elements of a document identified by

the document identifier stored in the first field ("Cowherds of the Deep" for

example, Fig. 16, wherein, words in "Cowherds of the Deep" corresponding to

elements of a document),

Johnson teaches a plurality of records organized into a table; each record reflects a document at Fig. 16, entry 452, wherein each record having plurality of segment classes (lists). Since a document may not have the same keywords with other documents, therefore, some of the Segment classes 1, 2, 3 include no keyword (element). Thus, Johnson teaches wherein at least some of the plurality of lists include different numbers of elements and wherein at least one of the plurality of lists include no elements as per claims 50 and 51.

Johnson teaches wherein contiguous elements in a document are not necessarily contiguous elements of a list as one having ordinary skill in the art would have recognized that table in Fig. 16 stores plurality of Segment classes for keywords in documents thus keywords in document are not necessarily contiguous in key fields as per claim 52.

Johnson teaches wherein for each of the records, the number of lists is the same as each of records has the same number of segment classes as per claim 53. Since each document may have the same keywords with other documents or may not have the same keywords with other documents, however, document records still have the same number of segment classes (list) range from 1 to ... in the table; therefore, Johnson teaches wherein a number of the plurality of lists is independent of document size as per claim 54.

Regarding claims 58, 61 and 64, Johnson teach discloses wherein each of the elements of a document is an element that has been extracted from the document (See col. 20, lines 20-31).

Regarding claims 59, 62 and 65, Johnson discloses wherein each of the elements of a document is a predetermined one of (A) a predetermined number of words (See col. 20, lines 28-

31, for example, "It was a dark"), (B) a predetermined number of sentences, (C) a predetermined

number of characters, (D) a predetermined number of paragraphs, and (e) a predetermined

number of sections.

Regarding claims 60, 63 and 66, Johnson discloses wherein each of the elements of a

document partially overlaps another of the elements of the document (See col. 20, lines 28-31)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (U.S.

Patent No. 5,850,490), in view of Fujiwara (U.S. Patent No. 6,381,601).

Regarding claim 48, Johnson discloses a machine-readable medium having stored

thereon a plurality of records (See Fig. 16), each of the records comprising:

a) a first field for storing a document identifier (Document Identifier field 0001,

Fig. 16); and

b) a plurality of lists (Segment class 1, segment class 2, segment class 3..., Fig.

16), each of the plurality of lists containing elements of a document identified by

the document identifier stored in the first field ("Cowherds of the Deep" for

example, Fig. 16, wherein, words in "Cowherds of the Deep" corresponding to

elements of a document),

However, Johnson is silent as to teach wherein a hash function is used to hash each of the

elements in order to determine which of the plurality of lists that each of the elements will be

contained in. On the other hand, Fujiwara teaches using a hash function to hash each of the

elements in order to determine which of the plurality of lists that each of the element will be

contained in (See col. 2, lines 57-62, col. 4, lines 47-62, col. 5, line 50 to col. 6, line 10, Fujiwara

et al. It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to use a hash function to hash each of the elements in order to determine

which of the plurality of lists that each of the element will be contained in. The motivation

would have been to reduce or remove duplicate elements by using hash function.

7.   Claims 48, 55-57, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Judd (U.S. Patent No. 6,360,215), in view of Fujiwara (U.S. Patent No. 6,381,601).

Regarding claim 48, Judd discloses a machine-readable medium having stored thereon a

plurality of records (Index 16, Fig. 1 and col. 6, lines 47-48 and lines 66-67), each of the records

comprising:

a) a first field for storing a document identifier (col. 7, lines 45-46, wherein

location identifier of the current document corresponding to "document identifier" and wherein

document index record corresponding to "record"); and

b) a plurality of lists, each of the plurality of lists containing elements of a

document identified by the document identifier stored in the first field (See col. 7,

lines 45-50, wherein columns (lists) of record contain values of properties

(elements of document) such as document title, document summary. One having

ordinary skill in the art would have recognized that document title or document

summary would contain words, characters or sentences),

Judd teaches MD5 hash function (See col. 7, line 65 to col. 8, line 9). However, Judd is silent as

to teach wherein a hash function is used to hash each of the elements in order to determine which

of the plurality of lists that each of the elements will be contained in. On the other hand,

Fujiwara teaches using a hash function to hash each of the elements in order to determine which

of the plurality of lists that each of the element will be contained in (See col. 2, lines 57-62, col.

4, lines 47-62, col. 5, line 50 to col. 6, line 10, Fujiwara et al. It would have been obvious to one

having ordinary skill in the art at the time of the invention was made to use a hash function to

hash each of the elements in order to determine which of the plurality of lists that each of the

element will be contained in. The motivation would have been to reduce or remove duplicate

elements by using hash function.

Regarding claim 55, Judd/Fujiwara discloses wherein each of the elements of a document

is an element that has been extracted from the document (See col. 7, lines 48-50, Judd et al.).

Regarding claim 56, Judd/Fujiwara discloses wherein each of the elements of a document

is a predetermined one of (A) a predetermined number of words (See col. 7, lines 48-50,

"document title", "document summary", Judd et al.), (B) a predetermined number of sentences

(See col. 7, lines 48-50, "document summary", Judd et al.), (C) a predetermined number of

characters, (D) a predetermined number of paragraphs, and (e) a predetermined number of

sections.

Regarding claim 57, Judd/Fujiwara discloses wherein each of the elements of a document

partially overlaps another of the elements of the document (See co. 7, lines 47-50, Judd et al.).

Regarding claim 67, this claim recites similar subject matter as set forth above in claim

48, thus is rejected under similar ground.

8.   Claims 50-54, 58-60, 61-63, and 64-66 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bates (U.S. Patent No. 6,873,982), in view of Johnson (U.S. Patent No.

5,850,490).

Regarding claims 50-54, Bates discloses a machine-readable medium having stored

thereon a plurality of records (See Fig. 4), each of the records comprising:

        a) a first field for storing a document identifier (Document Identifier field 102,

Fig. 4); and

        b) a plurality of lists (Key 1....Key N, reference 106, Fig. 4), each of the plurality

        of lists containing element of a document identified by the document identifier

        stored in the first field (See col. 9, lines 1-3),

Bates teaches each of the plurality of lists containing one element of a document.

However, Bates is silent as to each of the plurality of lists containing elements of a document.

On the other hand, Johnson teaches each of the plurality of lists containing elements of a

document (See Fig. 16, and corresponding text, Johnson). It would have been obvious to one

having ordinary skill in the art at the time of the invention was made to have each of the plurality

of lists containing more than one element of a document as suggested by Johnson because the

difference are only found in the nonfunctional descriptive material and do not alter how the

elements of system function. Thus, this descriptive material will not distinguish the claimed

invention from the prior art in terms of patentability, *see In re Gulack*, 703 F.2d 1381, 217 USPQ

401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Bates teaches a plurality of records organized into a table, each record reflects a

document at Fig. 4 and col. 6, lines 33-45, wherein each record having plurality of keyword

fields (lists). Since a document may not have the same keywords with other documents,

therefore, some of the key fields 106 include no keyword (element). Thus, Bates teaches

wherein at least some of the plurality of lists include different numbers of elements and wherein

at least one of the plurality of lists include no elements as per claims 50 and 51.

Bates teaches wherein contiguous elements in a document are not necessarily contiguous

elements of a list as one having ordinary skill in the art would have recognized that table in Fig.

4 stores plurality of key fields for keywords in documents thus keywords in document are not

necessarily contiguous in key fields as per claim 52.

Bates teaches wherein for each of the records, the number of lists is the same as each of

records has the same number of key 1 to key N fields as per claim 53. Since each document may

have the same keywords with other documents or may not have the same keywords with other

documents, however, document records still have the same number of key fields (list) range from

1 to N in the table; therefore, Bate teaches wherein a number of the plurality of lists is independent of document size as per claim 54.

Regarding claims 58, 61 and 64, Bates/Johnson discloses wherein each of the elements of a document is an element that has been extracted from the document (See col. 9, lines 2-3, Bates et al.)

Regarding claims 59, 62 and 65, Bates/Johnson discloses wherein each of the elements of a document is a predetermined one of (A) a predetermined number of words, (B) a predetermined number of sentences (C) a predetermined number of characters (word contain predetermined character, col. 9, lines 2-3), (D) a predetermined number of paragraphs, and (e) a predetermined number of sections.

Regarding claims 60, 63 and 66, Bates/Johnson discloses wherein each of the elements of a document partially overlaps another of the elements of the document (See Fig. 4).

Response to Arguments

9.   Applicant's arguments filed on 48-67 about the claim rejection of the last Office Action have been fully considered, but they are not persuasive.

Regarding Applicant's argument on the 101 rejection of claims 48, 50, 52, 53 and 67, Applicant argues that these claims are more than a mere abstraction and the claimed data structures are specific structural elements in memory. However, merely stored data structures in

memory and merely claiming nonfunctional descriptive material stored in a machine-readable medium does not make the invention eligible for patenting. The claims do not satisfy the useful result aspect of the practical application requirement as to whether their execution accomplishes a practical application.

Applicant argues that Broder does not teach concluding that two documents are near-duplicates if any one fingerprint of one of the documents matches any one fingerprint of the other document where each of documents has at least two fingerprints. The Examiner respectfully disagrees. Broder teaches each of documents has at least two fingerprints at col. 2, lines 34-38 and col. 4, lines 19-24, wherein the set of shingles associated with **a document** are reduced to **unique identifications**, unique identifications of a document can be computed as **digital fingerprints** corresponding to at least two fingerprints for each document of the Applicant. And Broder teaches two documents are near-duplicates if any one fingerprint of one of the document matches any one fingerprint of the other document at col. 1, lines 4-7 ("like data objects can be identified") and col. 10, lines 27-29 ("if two documents with identical fingerprints are encountered").

Applicant argues that Johnson does not teach a plurality of lists, each of the plurality of lists containing elements of a document. The Examiner respectfully disagrees. Figure 16 teaches this limitation as each of the records (record 452) of table 450 contains a plurality of lists (Segment class 1 corresponds to title, segment class 2 corresponds to author, segment class 3 corresponds to text...), then each of the plurality of lists containing elements of a document, for example, segment class 3 corresponds to text that begins with the words (words corresponds to elements) "It was a dark...").

Applicant argues that one skilled in the art would not have been motivated to combine

Johnson with Fujiwara. The Examiner respectfully disagrees. In response to applicant's

argument that there is no suggestion to combine the references, the examiner recognizes that

obviousness can only be established by combining or modifying the teachings of the prior art to

produce the claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In*

re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Fujiwara hash function

is used to group data in records that belongs to particular column (See col. 2, lines 57-62). And

Johnson groups the correct data (such as title belong to Segment class 1) to corresponding

column. Thus, it would have been obvious to one having ordinary skill in the art at the time of

the invention was made to combine Johnson with Fujiwara.

Applicant argues that Judd fail to appreciate how any of these elements can be

characterized as lists. Examiner respectfully disagrees. Col. 7, lines 45-50 states, "Each index

record also contains the location identifier of the **current document**, and may also contain

values of properties...such as **document** title, **document** summary", therefore location identifier,

title and summary belongs to "the current document".

Allowable Subject Matter

10.   Claims 46 and 47 are allowed.

Regarding claims 1 and 11, the prior art of record fail to disclose or suggest the claimed

limitation of: comparing a cluster identifier of the one candidate search results with a cluster

identifier of the other candidate search result to determine that the one candidate search result is

a near-duplicate of the other candidate search results so that the one candidate search result is

rejected, thereby a filtered set of search results including only those of the plurality of candidate

search results that have not been rejected in conjunction with the remaining, salient claim

provisions.

Conclusion

11.　　Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Merilyn P Nguyen whose telephone number is 571-272-4026.
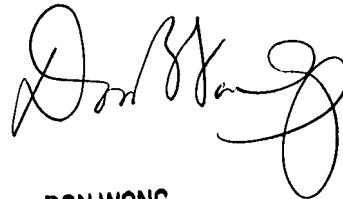
The examiner can normally be reached on M-F: 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the

organization where this application or proceeding is assigned are 571-273-8300 for regular

communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

MN
June 08, 2007

DON WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100